

# KIC 006690940

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006690940-01	OBS	No	0.829202	131.968787	14.7	7.551	9.8	7.6	1.19	6469	0.46	6413.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006690940-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

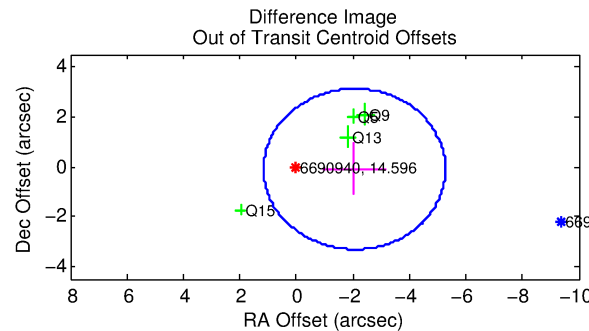
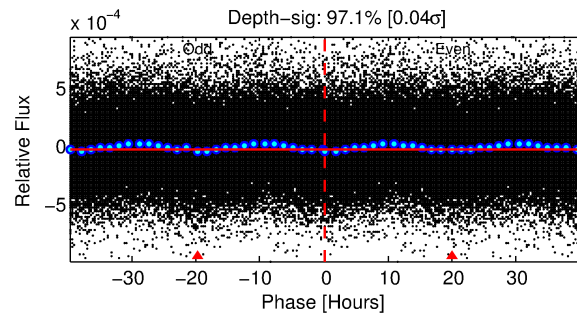
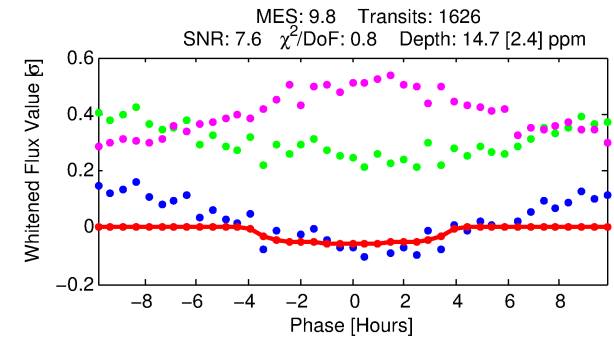
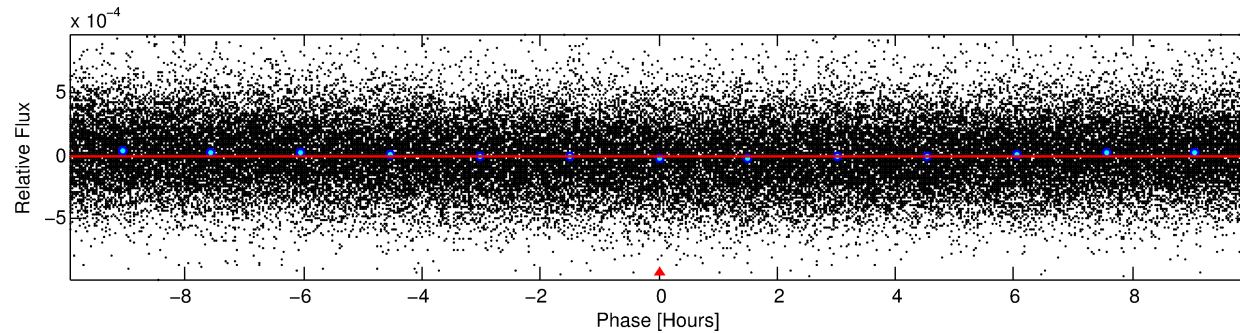
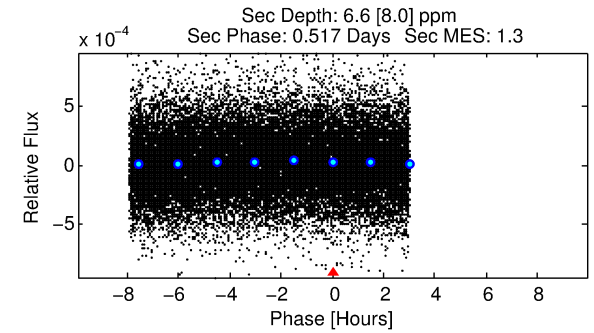
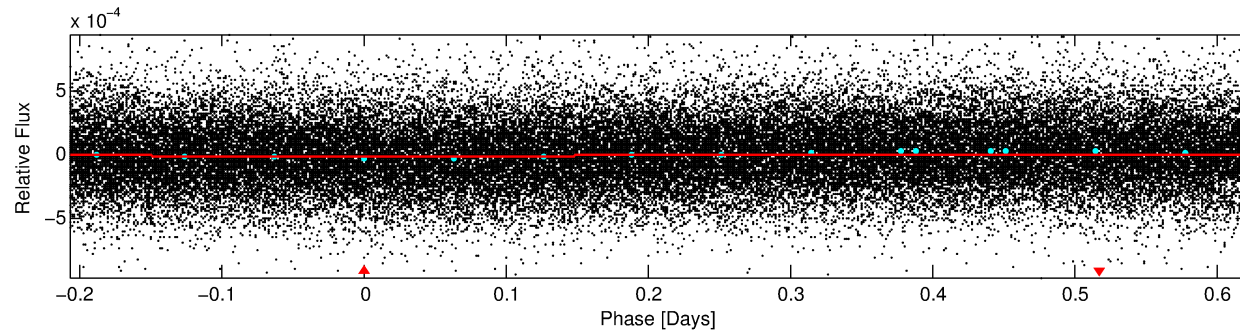
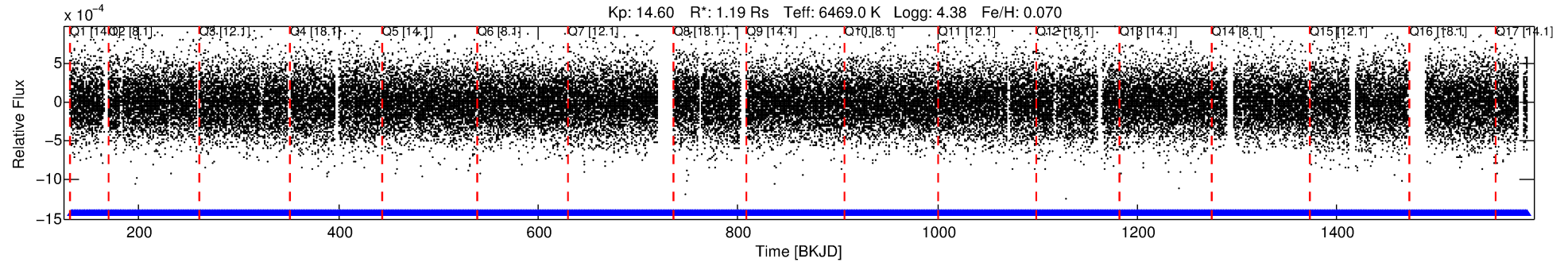
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006690940-01

No Significant Match Found

# DV One-Page Summary

KIC: 6690940 Candidate: 1 of 1 Period: 0.829 d



## DV Fit Results:

Period = 0.82920 [0.00002] d  
Epoch = 131.9688 [0.0106] BKJD  
Rp/R\* = 0.0035 [0.0058]  
a/R\* = 1.08 [1.28]  
b = 0.13 [64.88]  
Seff = 6413.91 [2640.92]  
Teq = 2282 [235] K  
Rp = 0.46 [0.77] Re  
a = 0.0187 [0.0050] AU  
Ag = 6.02 [21.29] [0.24σ]  
Teffp = 5527 [4860] K [0.67σ]

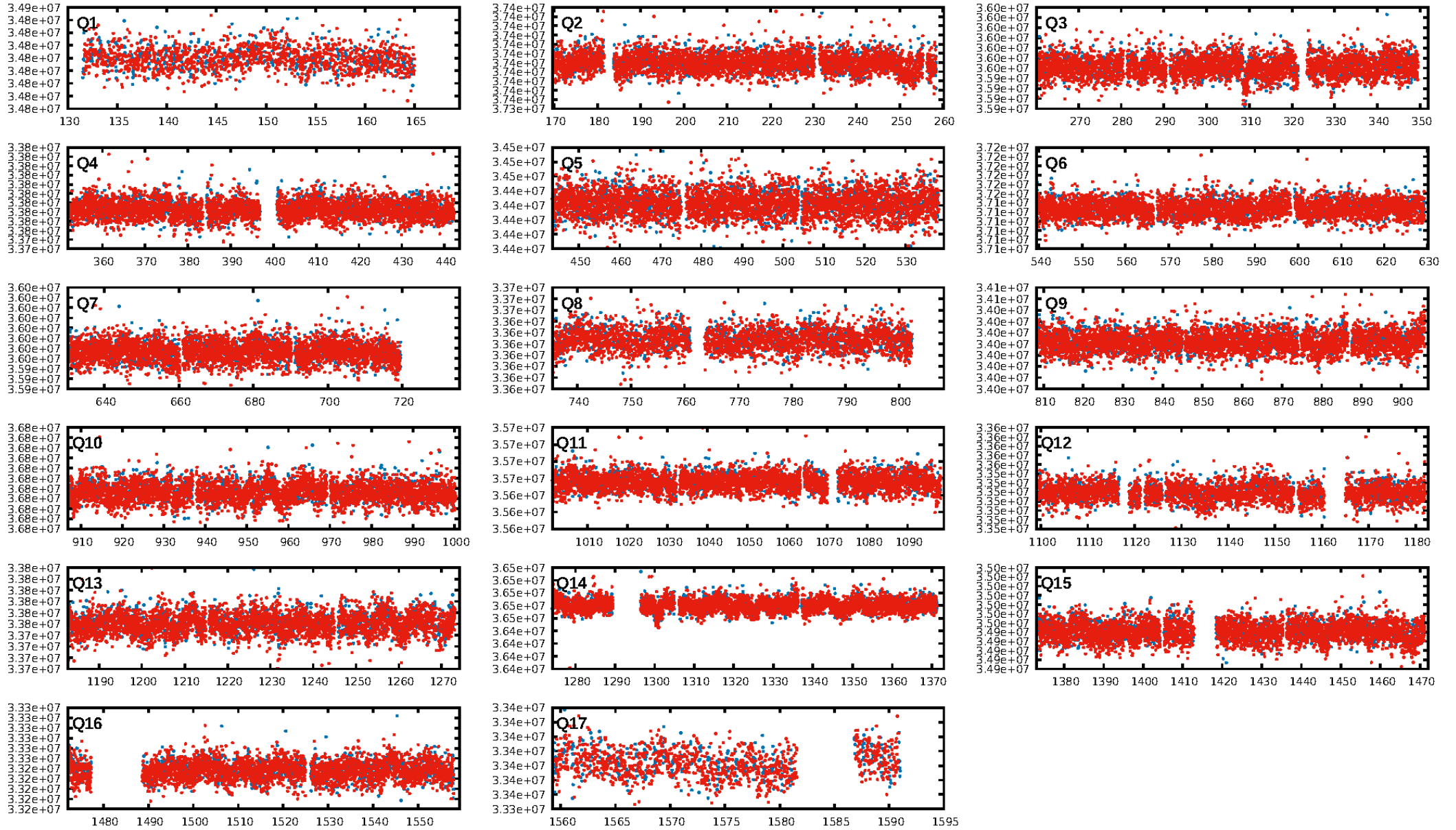
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1553/1553]  
GhostDiagnostic-chr: 2.209  
Centroid-sig: 1.9%  
Centroid-so: 3.822 arcsec [1.91σ]  
OotOffset-rm: 2.058 arcsec [1.92σ]  
KicOffset-rm: 2.028 arcsec [2.14σ]  
OotOffset-st: 0/1/0/3 [4]  
KicOffset-st: 0/1/0/3 [4]  
DiffImageQuality-fgm: 1.00 [4/4]  
DiffImageOverlap-fno: 1.00 [17/17]

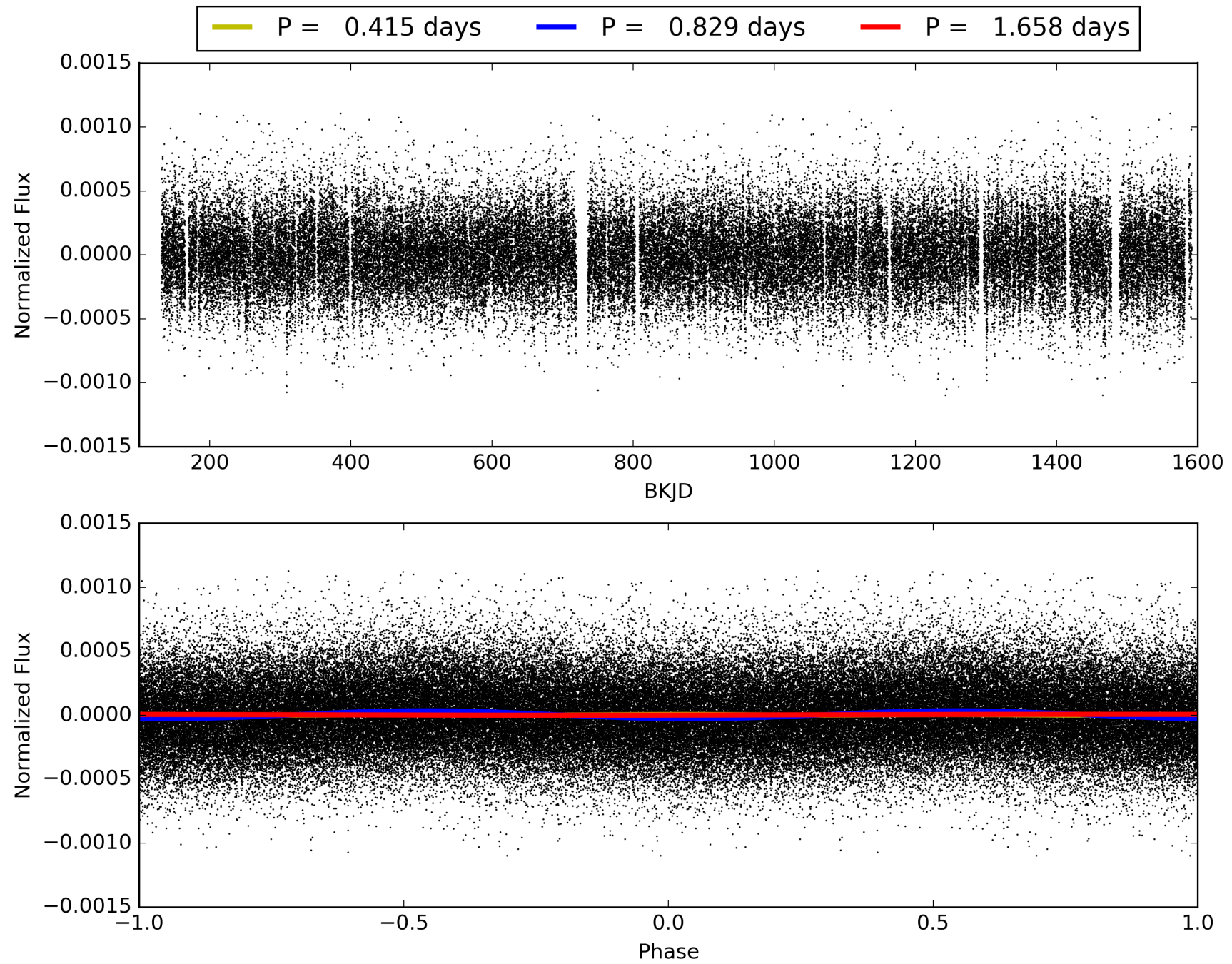
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:26:02 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006690940-01, PDC Light Curves



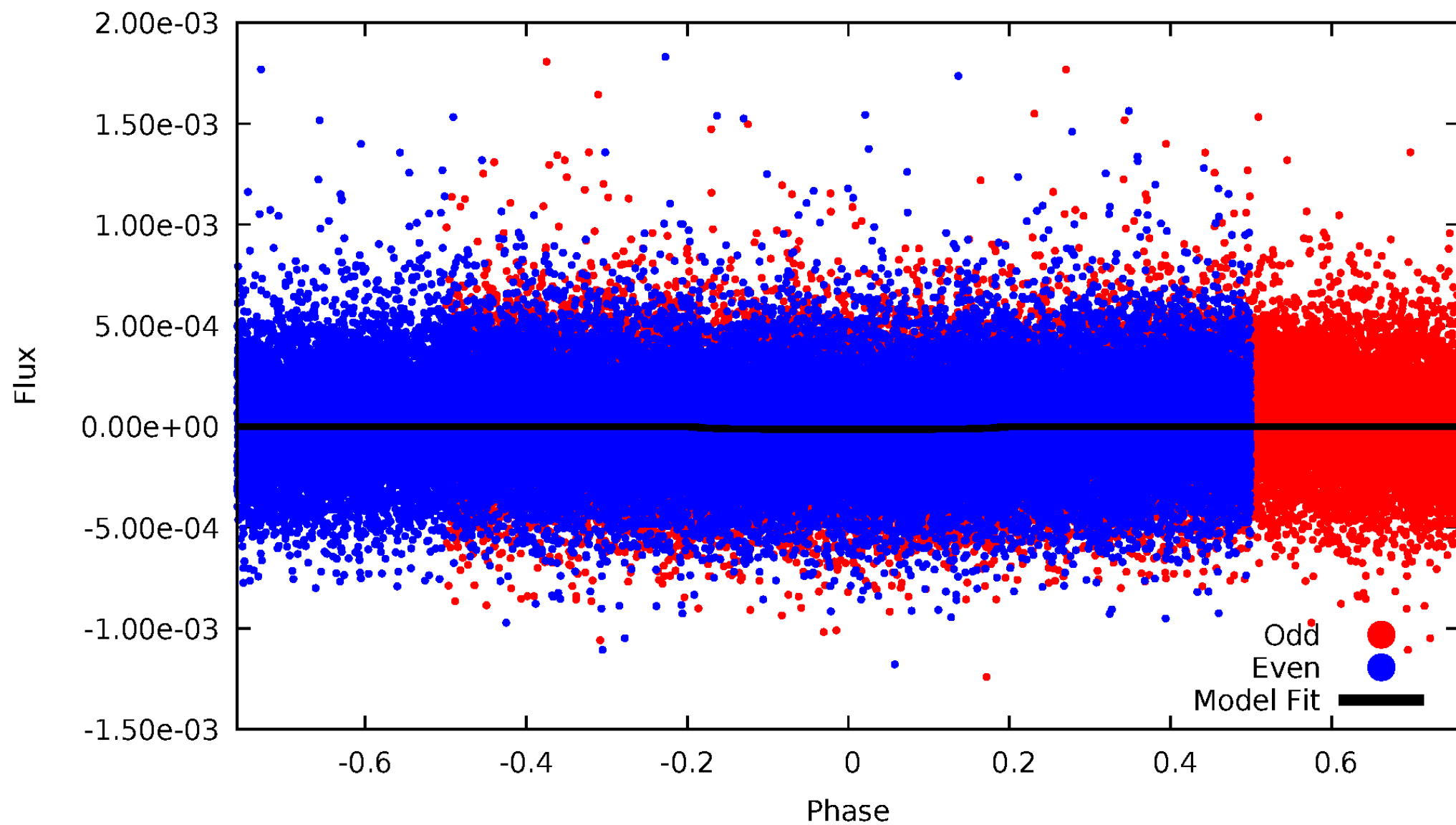
TCE 006690940-01





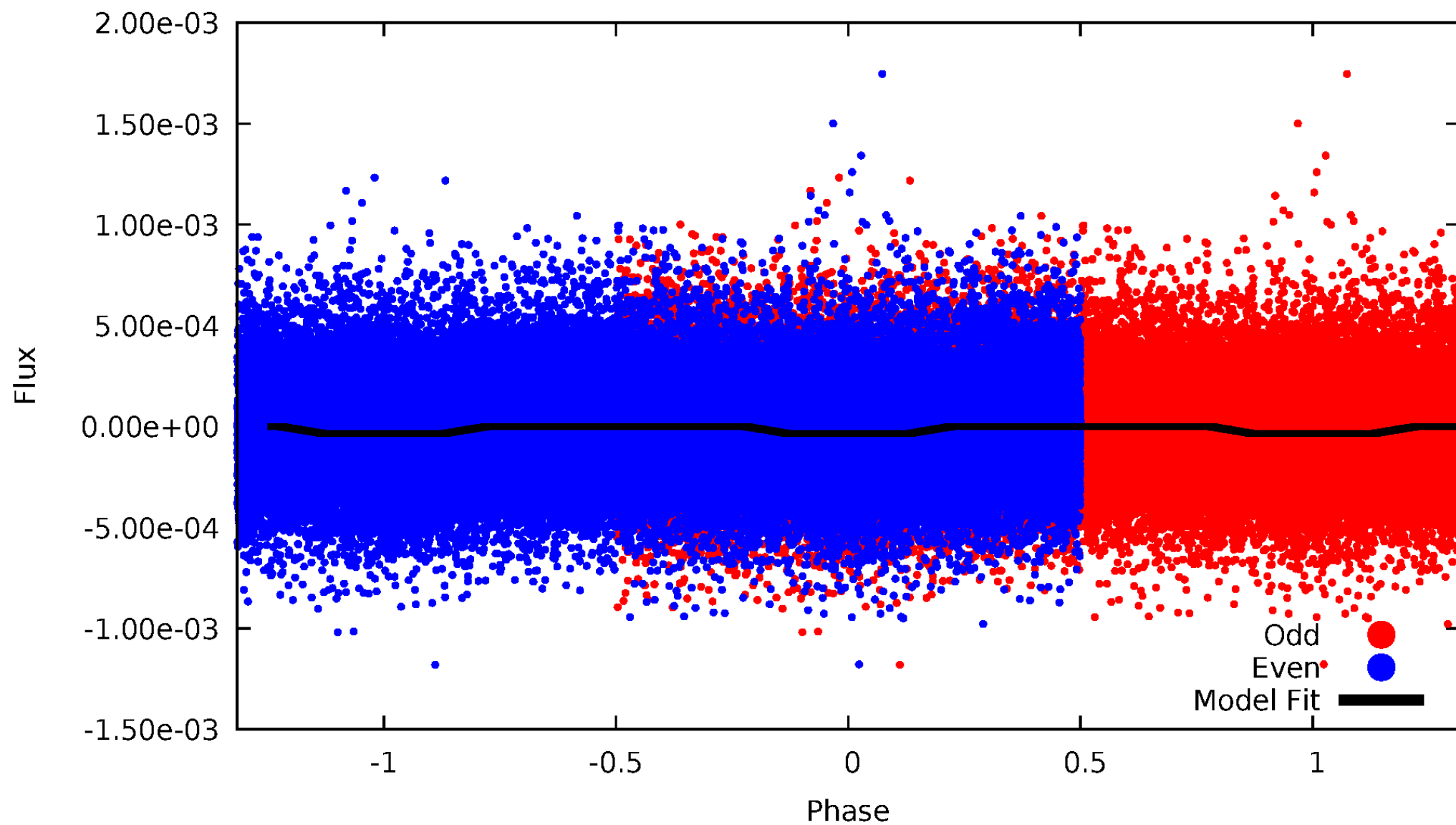
# DV Odd/Even

TCE 006690940-01

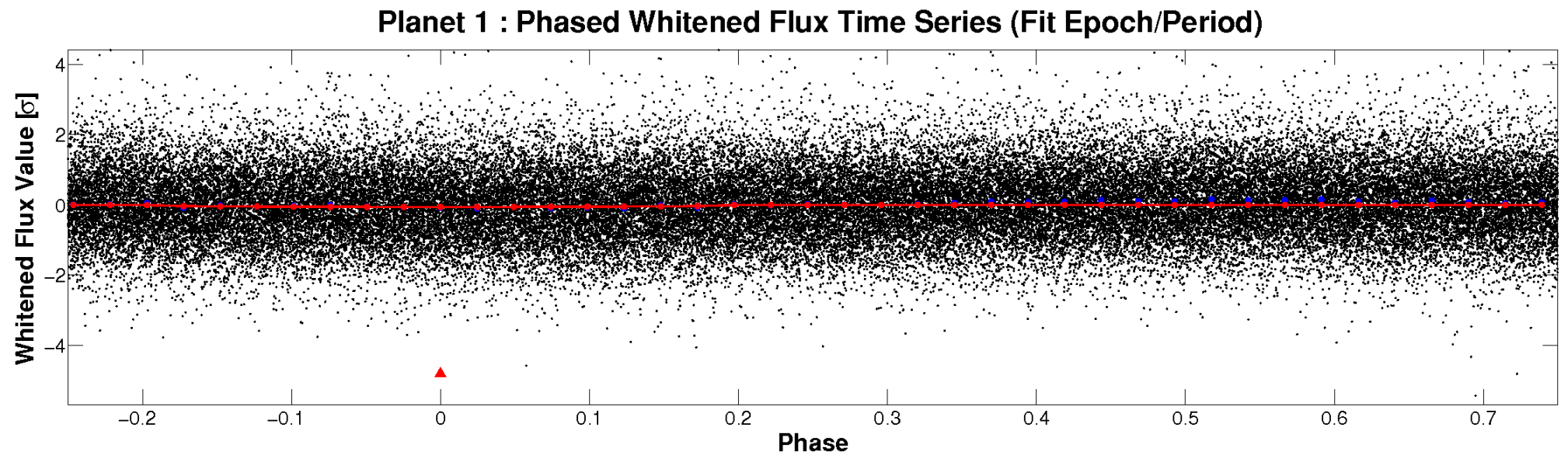
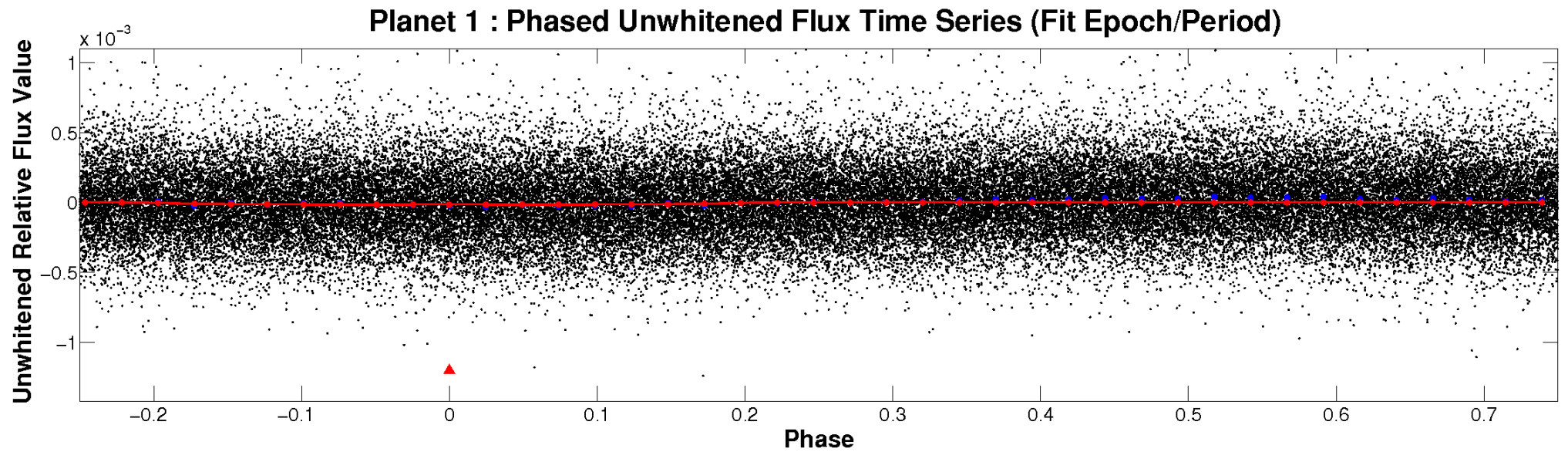


# ALT Odd/Even

TCE 006690940-01

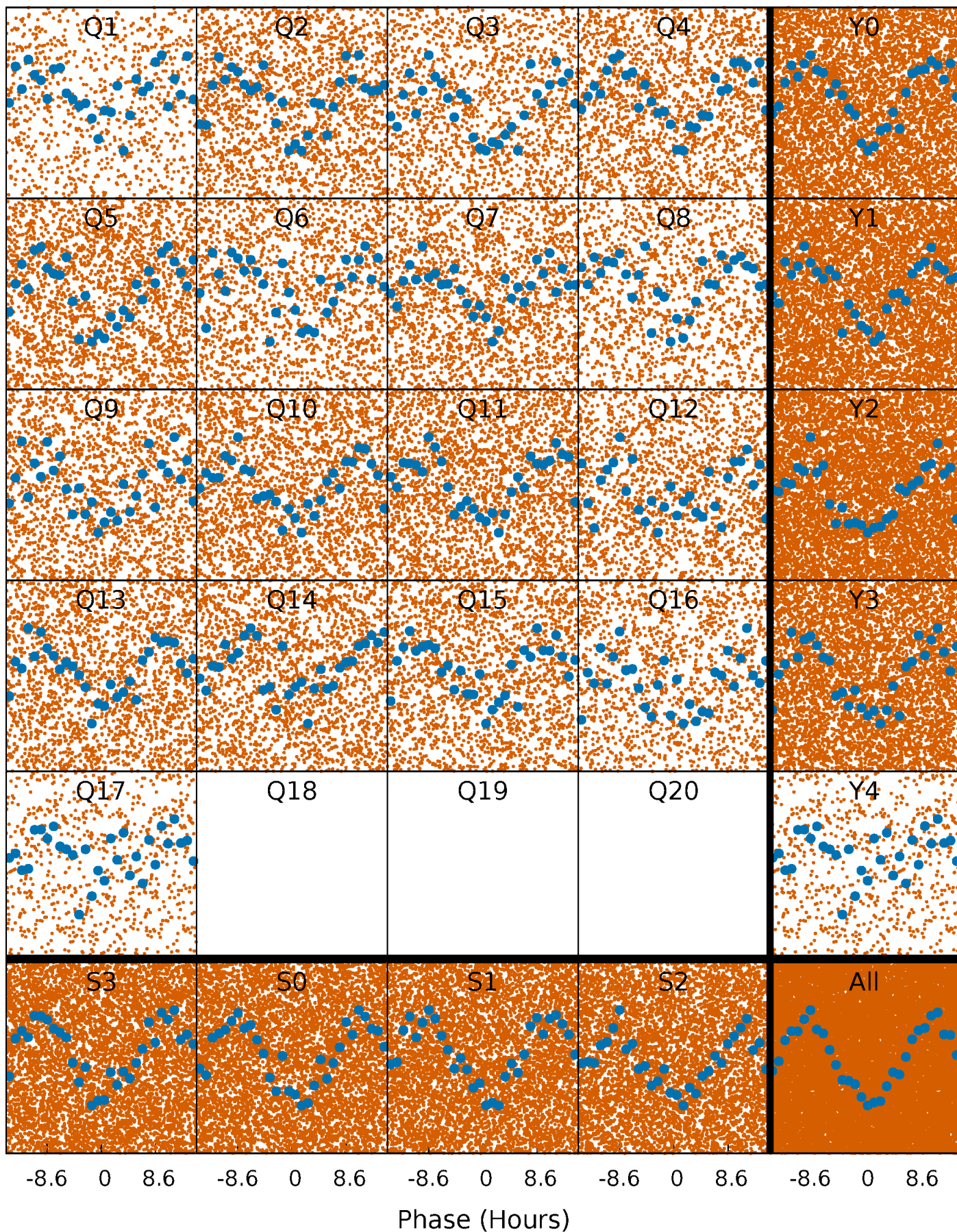


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

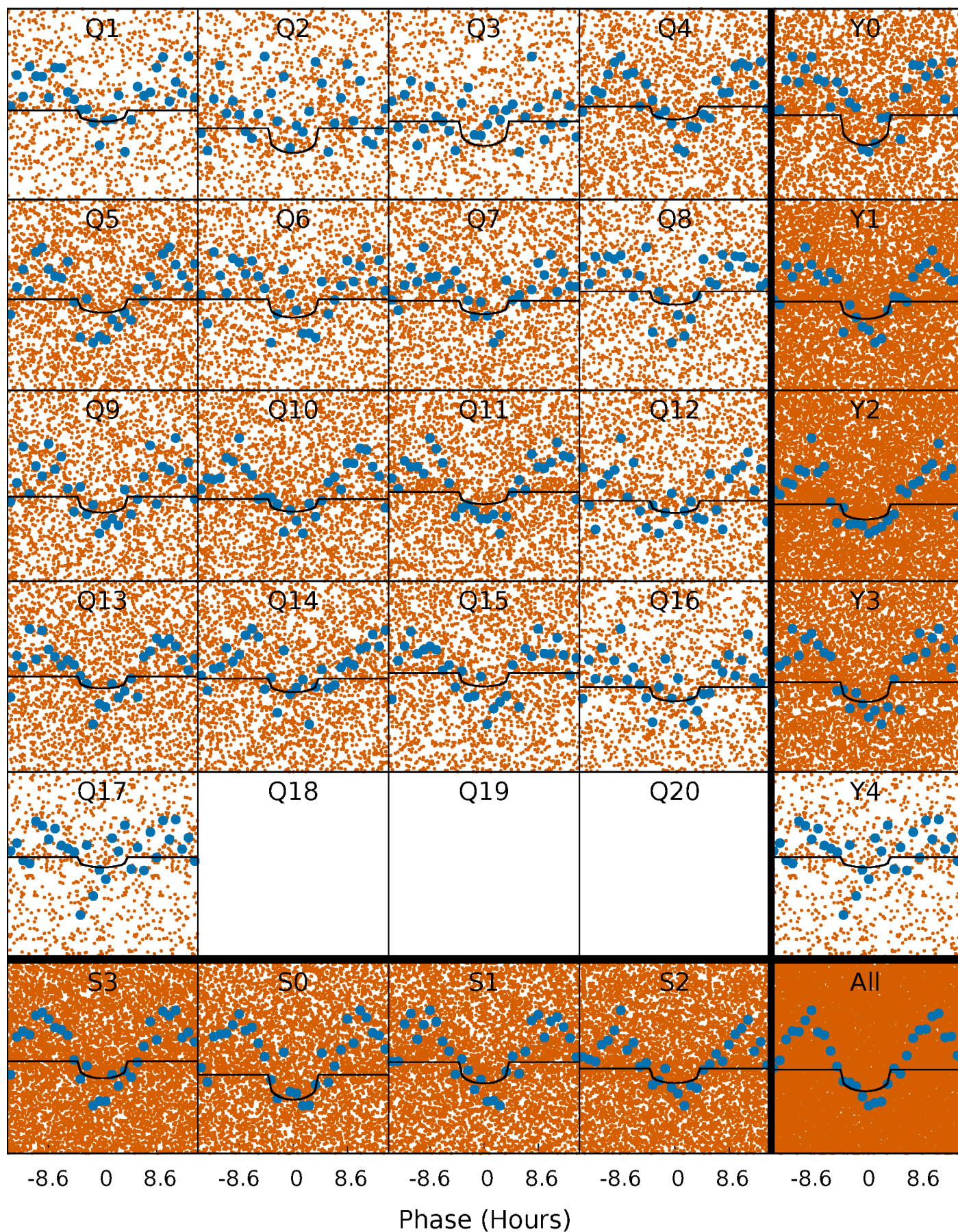
TCE 006690940-01   P= 0.829202 Days    $T_0=131.968787$  (BKJD)





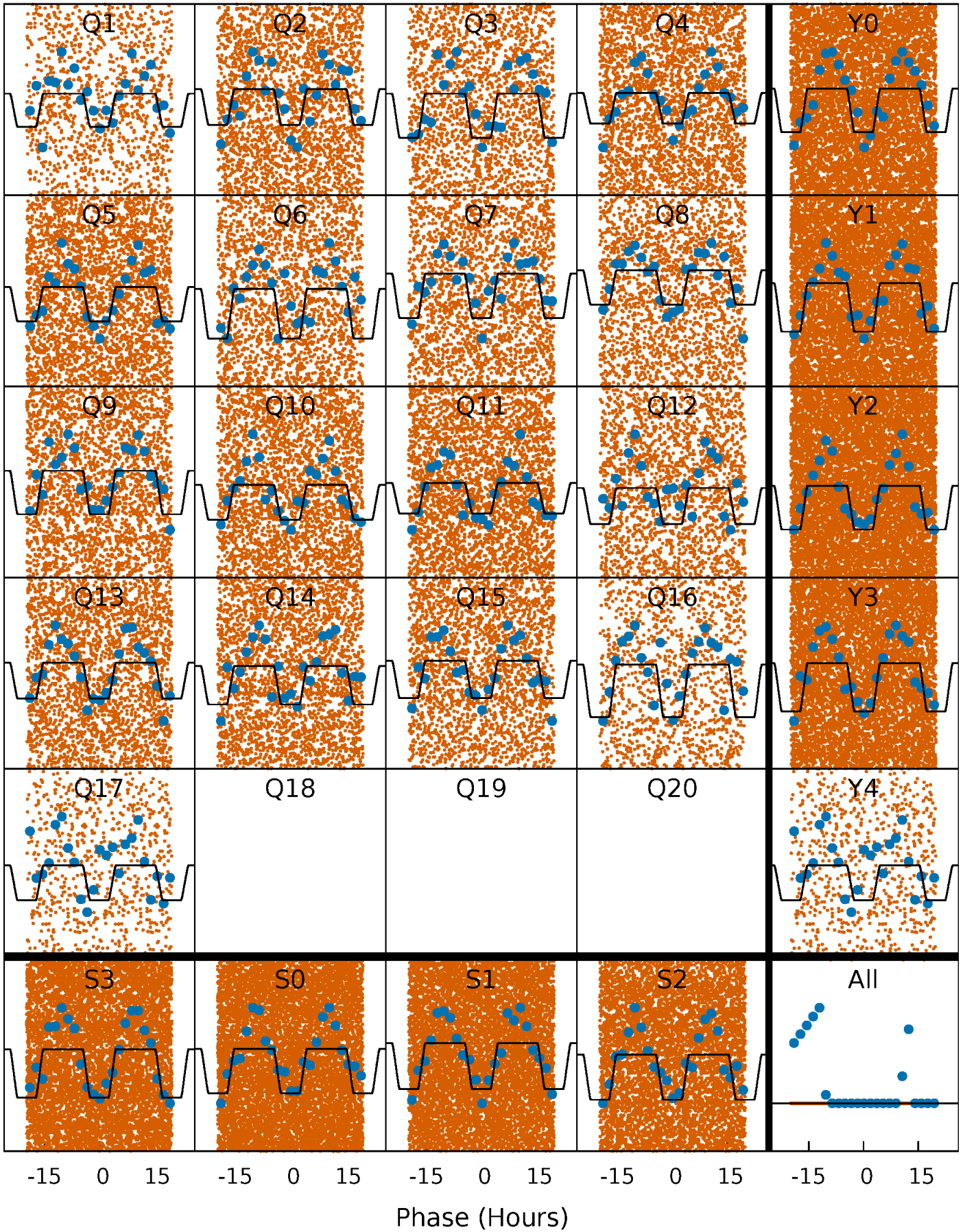
# DV Quarter-Phased Transit Curves

TCE 006690940-01 P= 0.829202 Days  $T_0=131.968787$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006690940-01   P= 0.829250 Days    $T_0=131.961496$  (BKJD)

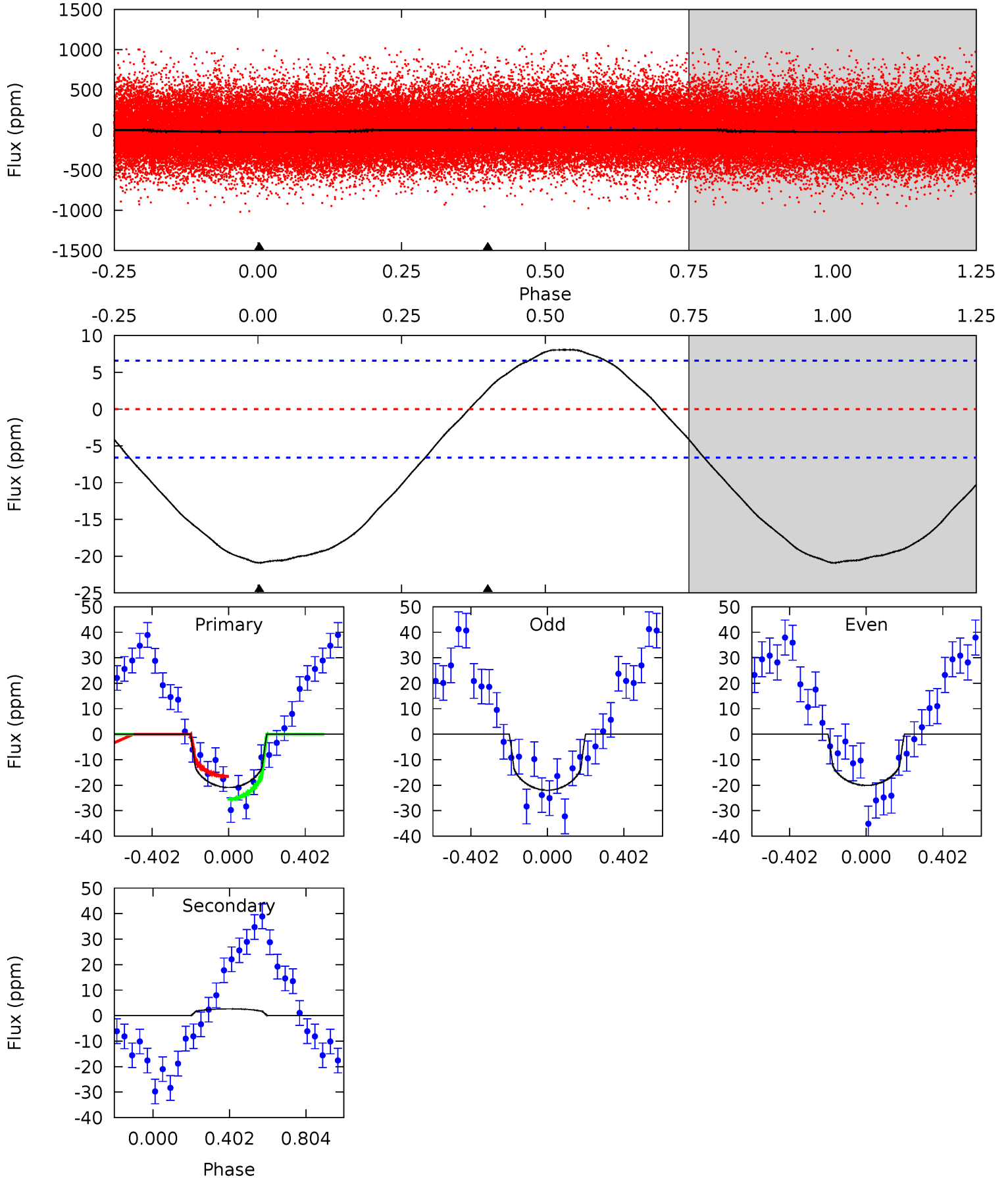




# DV Model-Shift Uniqueness Test

006690940-01, P = 0.829202 Days, E = 131.139585 Days

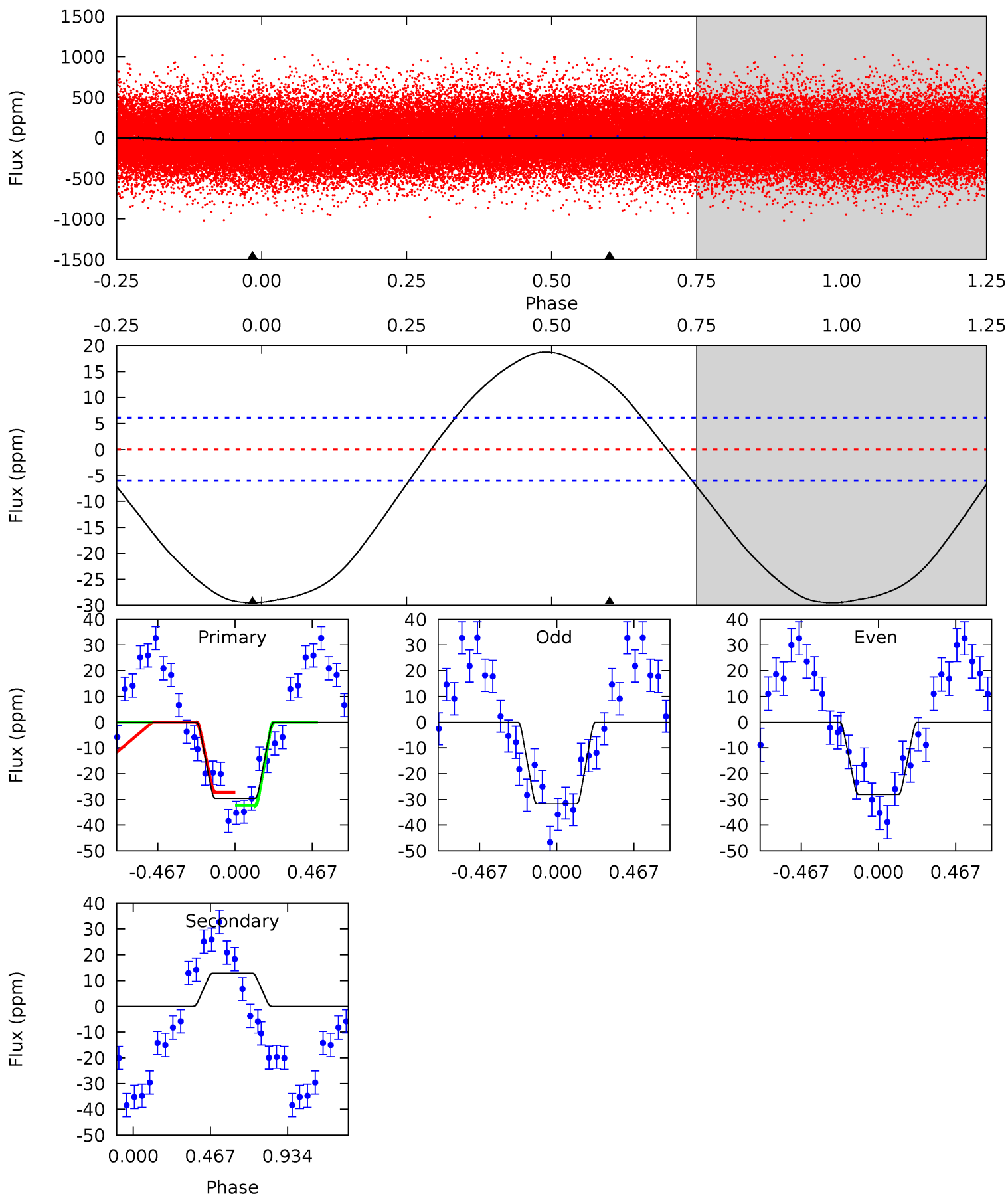
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	-1.72	0	0	4.26	0.84	1.60	13.5	13.5	-1.72	-1.72	0.61	0.95	0.28	2.88



# Alt Model-Shift Uniqueness Test

006690940-01, P = 0.829250 Days, E = 131.132246 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	-8.99	0	0	4.23	0.73	3.16	20.7	20.7	-8.99	-8.99	1.23	1.08	0.39	1.79





### Stellar Parameters For KIC 006690940

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6469^{+154}_{-232}$	$4.385^{+0.065}_{-0.208}$	$0.070^{+0.250}_{-0.350}$	$1.193^{+0.388}_{-0.155}$	$1.260^{+0.165}_{-0.184}$	$1.047^{+0.289}_{-0.539}$
	+2%/-4%	+1%/-5%	+357%/-500%	+33%/-13%	+13%/-15%	+28%/-51%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 006690940-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$3\pm 2$	$0.75^{+0.68}_{-0.50}$	$3239^{+225}_{-164}$	$-4018^{+554}_{-1872}$	$-0.818^{+0.678}_{-6.633}$
Alt.	$13\pm 1$	$0.94^{+0.82}_{-0.59}$	$3253^{+253}_{-176}$	$-4861^{+802}_{-2996}$	$-2.792^{+1.985}_{-17.433}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

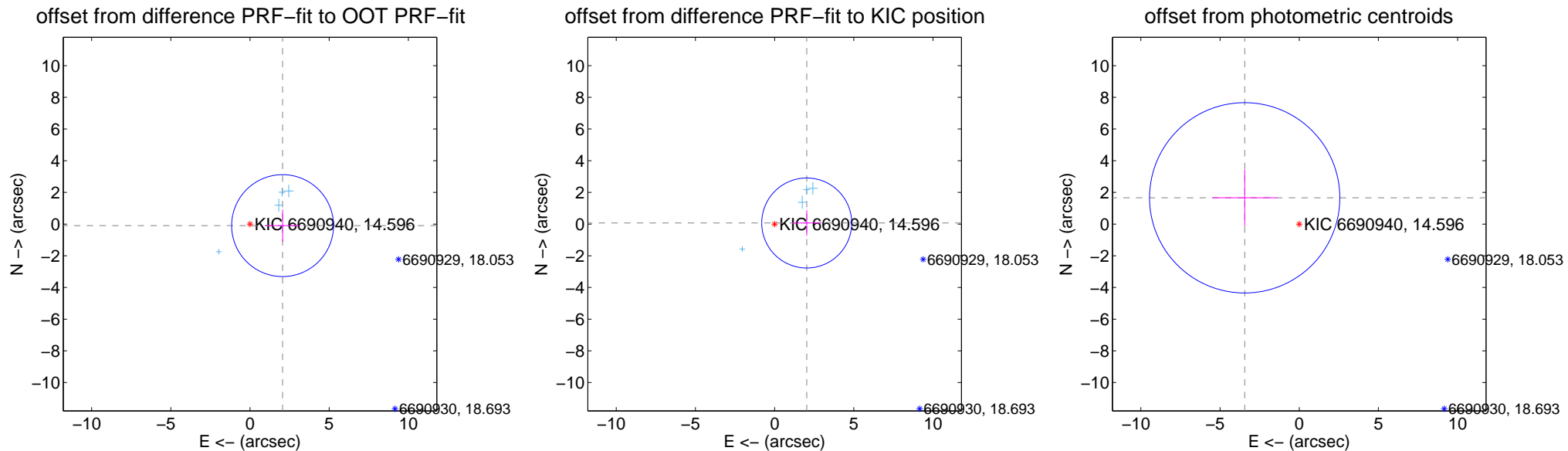
## DV Centroid Data

Supplemental centroid analysis for 006690940-01. Kepler magnitude: 14.60. Transit SNR 7.58

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.058 \pm 1.072$	1.92	$-2.056 \pm 1.120$	$-0.097 \pm 1.008$
PRF-fit source offset from KIC position	$2.028 \pm 0.947$	2.14	$-2.026 \pm 0.920$	$0.068 \pm 0.805$
photometric centroid source offset	$3.82 \pm 2.00$	1.91	$3.44 \pm 2.05$	$1.66 \pm 1.79$



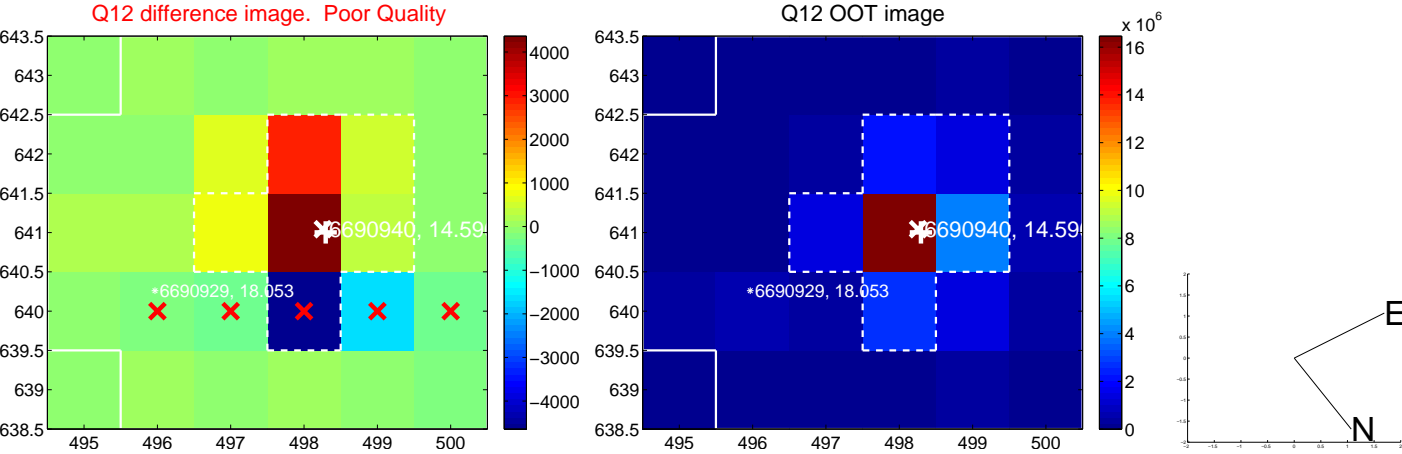
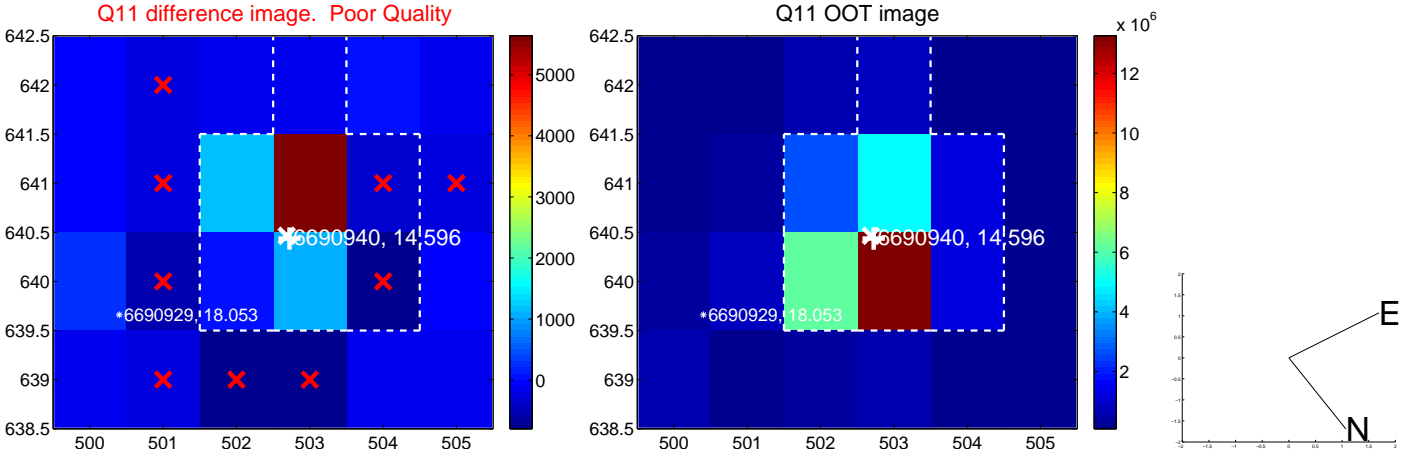
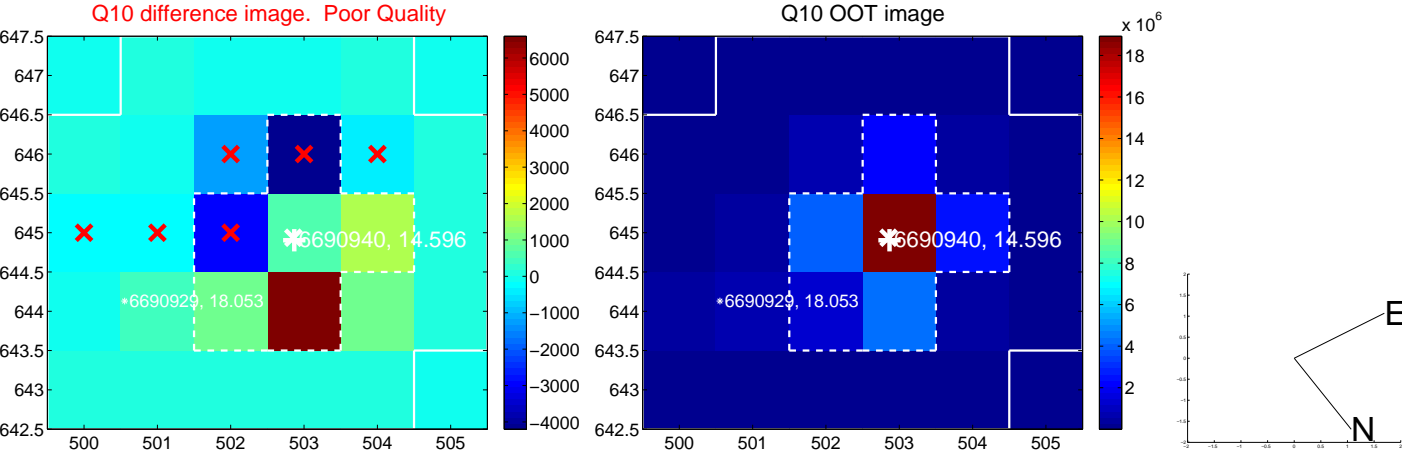
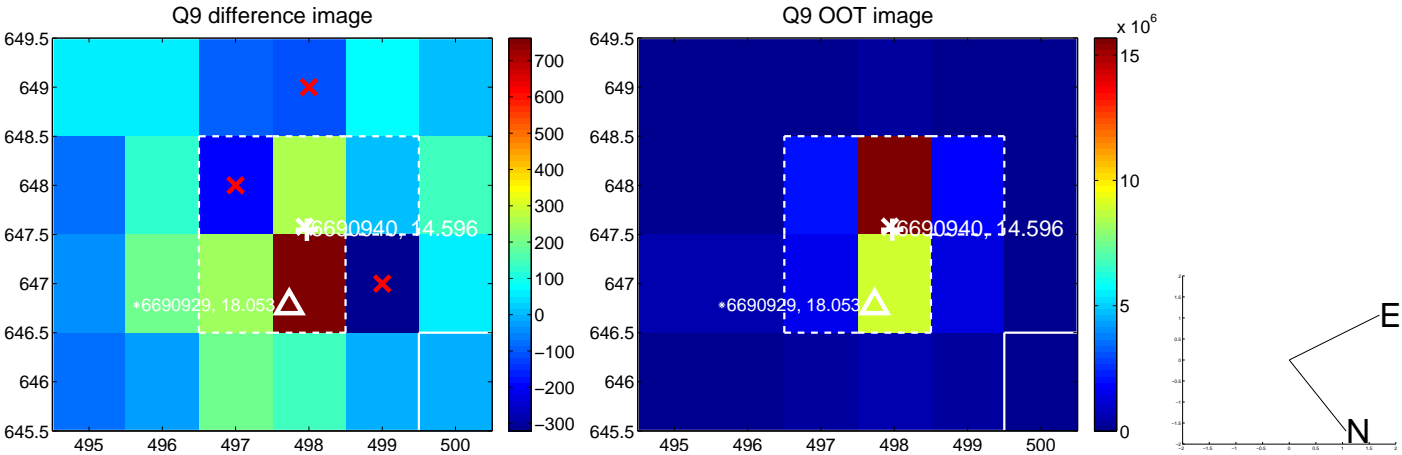
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.



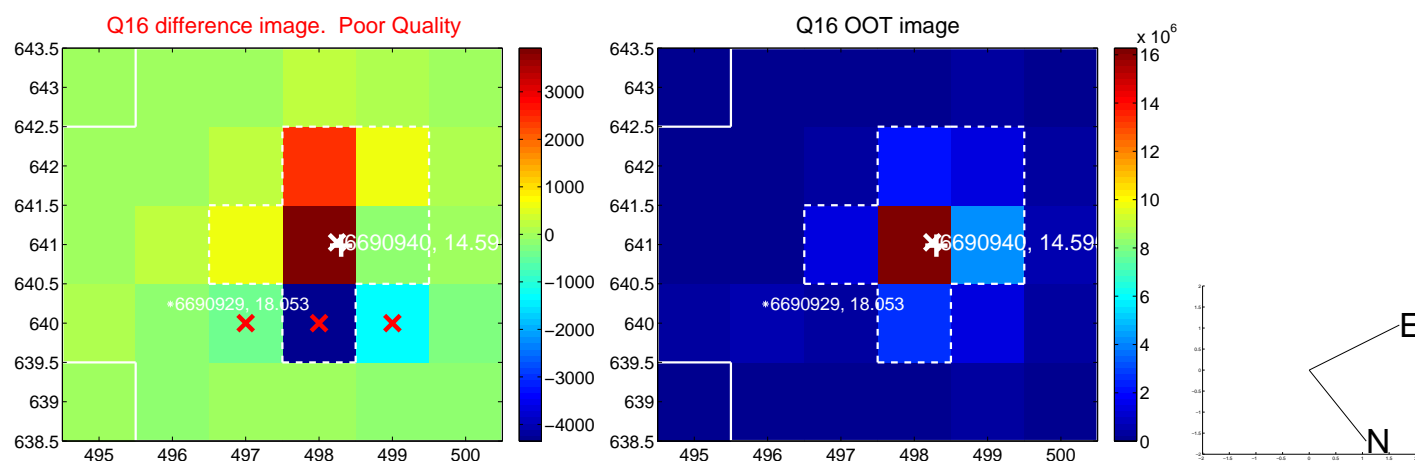
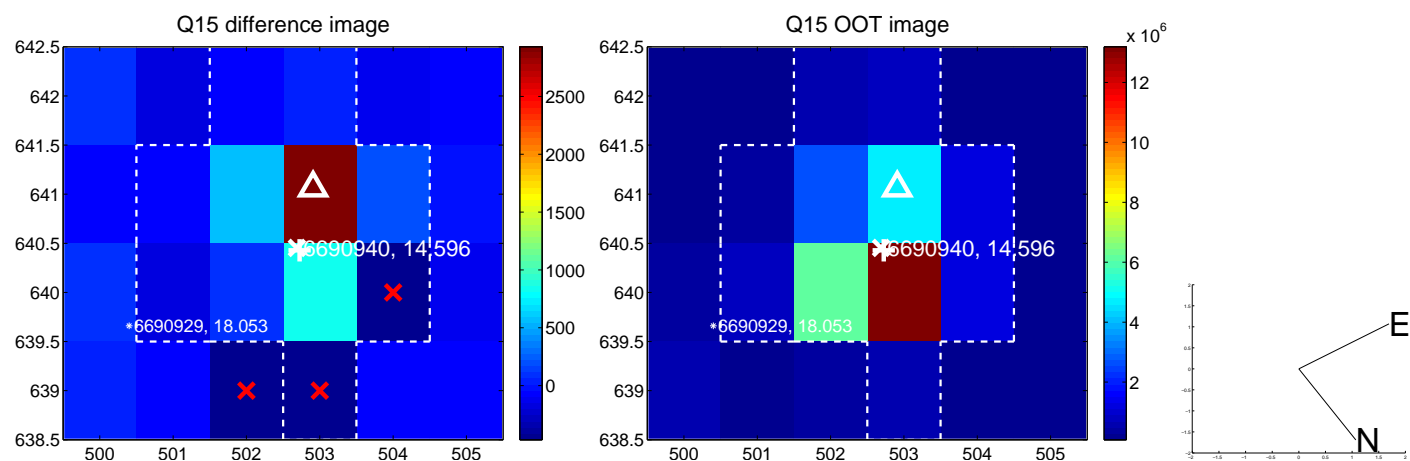
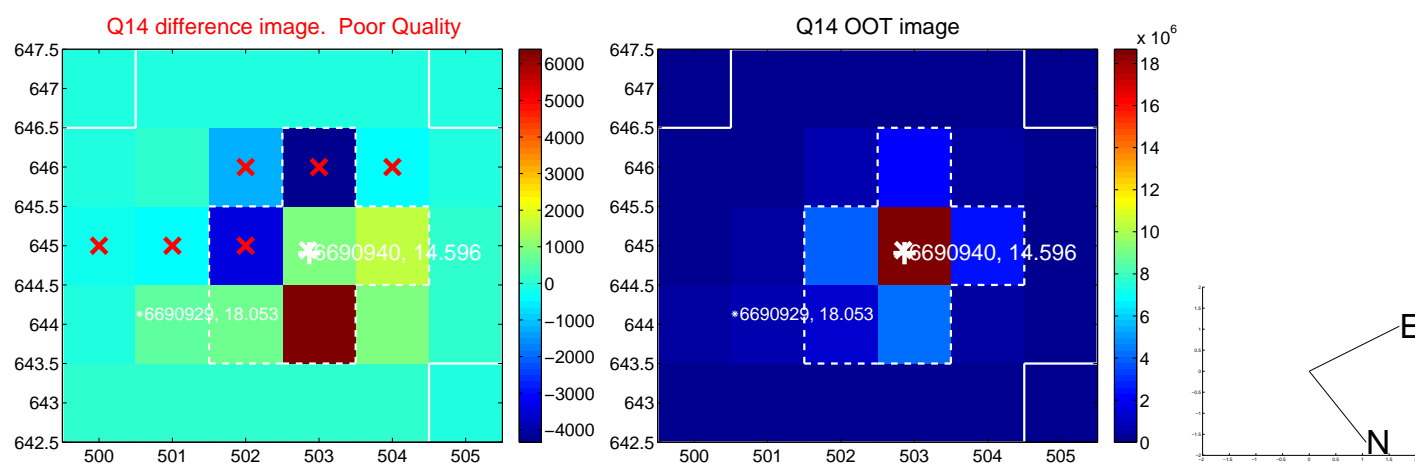
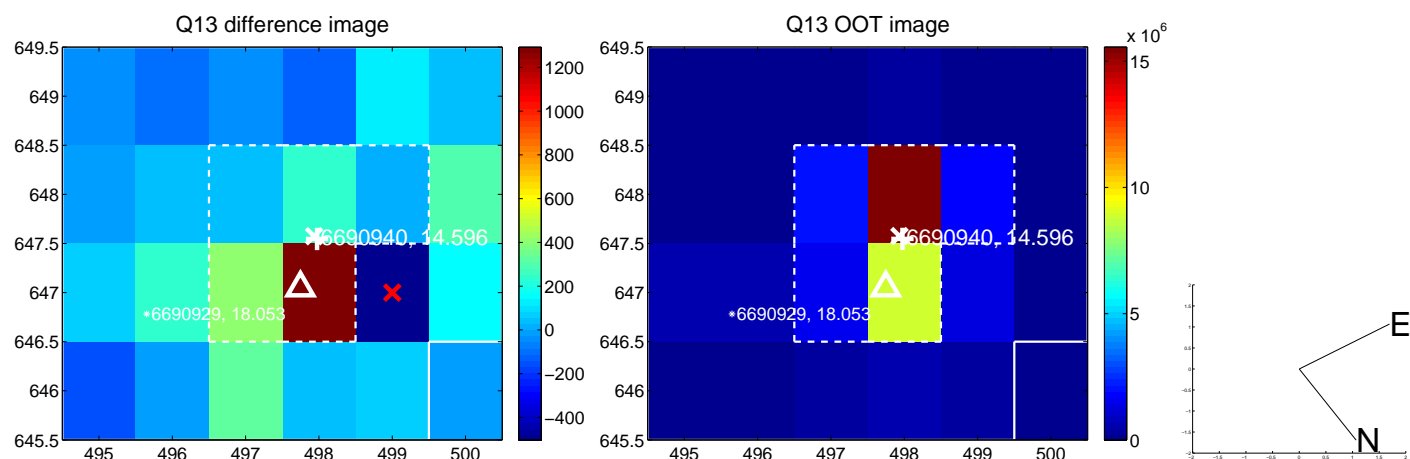




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination

